

**ABSTRACT OF THE DISCLOSURE**

Systems and methods for encoding fractional bit rates in a pulse amplitude modulation (PAM) communication system are provided. The systems and methods enable a first PAM transceiver to specify to second PAM transceiver a desired fractional bit rate for transmitting data to the first PAM transceiver. In this manner, the systems and methods of the present invention for the first time enable a single standardized specification of a generalized transmitter that may be used to implement any type of fractional encoding or mapping.